

**SAMPLE**  
**GUIDANCE AND EVALUATION MANUAL FOR**  
**RADIOLOGICAL EMERGENCY PREPAREDNESS**  
**EXERCISES**

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**REP PROGRAM**  
**STRATEGIC REVIEW STEERING COMMITTEE**

## STATEMENT FROM THE REGIONAL ASSISTANCE CHAIRPERSONS ADVISORY COMMITTEE

The Regional Assistance Chairpersons Advisory Committee (RACAC) was charged by the Strategic Review Steering Committee (SRSC) to prepare an example of streamlining several objectives from FEMA REP 14/15 to be presented with the Streamlining Concept paper. The RACAC prepared this document to illustrate an approach to the rewrite/change of existing exercise guidance and evaluation material. The committee recognizes that there are other approaches including leaving REP 14/15 in their current form (with modifications necessitated by changes in other supporting documents); or altering current format to reduce unnecessary objectives (such as 30, 32, 33) and modifying each remaining objective based on customer responses to the strategic review, or to generate a totally new document. The attachment is a representation of an approach to this process.

**OBJECTIVE X: RADIOLOGICAL EXPOSURE CONTROL**

(Formerly Objectives 5, 14 and 29)

Demonstrate the capability to continuously monitor and control radiation exposure to emergency workers, and the capability and resources to implement protective actions for emergency workers, institutionalized individuals, and, if the State plan specifies, the general public.

**INTENT**

This objective states that OROs shall be able to determine the radiation exposure received by emergency workers; provide for distributing, collecting, and processing of direct-reading dosimeters (DRD) and non-direct-reading dosimeters; provide for emergency workers to read their DRDs at appropriate intervals; maintain a radiation dose record for each emergency worker; and establish a decision chain or authorization procedure for emergency workers who are required to incur radiation at levels greater than routinely authorized emergency exposure limits. This objective should be evaluated in concert with Objective A, Radiological Protective Actions; Objective C, *Radiological Field Monitoring and Sampling*; Objective E, Radiological Monitoring and Decontamination; Objective F, *Radiological Laboratory Operations*; and Objective G, *Radiological Medical Response*. (See evaluation criteria from NUREG-0654 planning standards E, H, J, and K).

Whenever the plan requires, sufficient quantities, storage, and means for distributing radioprotective drugs to emergency workers, institutionalized individuals, and the general are available.

For assigning DRDs, emergency workers are categorized according to whether they will be working in an area of potentially high exposure rates (Category 1), or in an area of potentially low exposure rates (Category 2). Areas inside the plume EPZ are considered to be in Category 1. It is essential that emergency workers with assignments in this area have a means for measuring their radiation exposure at the beginning of the accident response.

Emergency workers assigned within categories 1 and 2 include all those whose services are needed to protect the health and safety of the general public during an emergency. These workers may be exposed to radiation from an airborne plume or from material deposited during a plume passage during their missions. Therefore, a means for measuring their radiation exposure be available at the beginning of the accident response. Individuals returning to restricted areas for necessary work (e.g., farmers feeding animals) are assigned to Category 2. (See evaluation criteria from Planning Standards E, H, J, K, and M.)

## EXTENT OF PLAY

Under this objective, all activities are to be carried out using plans and procedures as in an actual emergency unless otherwise specified in the extent-of-play agreement.

## DEMONSTRATION CRITERIA

### NUREG

### CRITERION 1

**H.10, K.3.a  
J.10.e,f.**

**OROs have dosimetry and KI available for  
emergency worker radiation exposure control.**

## EVALUATION

OROs demonstrate the capability to assign non-direct-reading dosimeters to emergency workers, specify the type of dosimetry (film badge, thermo-luminescent dosimeters [TLD], etc.), maintain records of the serial numbers of dosimeters, and inform workers of where and when the dosimeters should be turned in for processing.

Also, each emergency response worker has access to a functioning dosimeter charger and understands its use. OROs assign DRDs with scale ranges appropriate to measurement of any administrative dose limits established by State or local jurisdictions, and measure the dose limits established by EPA 400 or superceding documents. OROs are able to provide documentation of calibration dates and inspection for electrical leakage in accordance with manufacturers specifications.

Sufficient quantities of KI are available for emergency workers, institutionalized personnel, and the general public (if applicable). KI supplies are within the listed expiration date and plans for distribution are available.

### NUREG

### CRITERION 2

**K.3.b,4.**

**Emergency workers demonstrate the use of dosimetry and KI and  
knowledge of exposure control procedures to manage radiological  
exposures.**

## EVALUATION

OROs demonstrate that instructions are available on how to use individual and/or group dosimeters and take periodic readings. The DRDs must be zeroed and the initial readings recorded before deployment.

Emergency workers are aware of their maximum authorized exposure limit (administrative dose limit). If authorized to terminate their mission by their own decisions when a predetermined level is reached, emergency workers are aware of appropriate personnel to contact. DRDs shall be periodically read, and each **emergency**

worker has an exposure record or chart. Individual exposures are recorded (in Roentgens) at the end of each mission or shift, and emergency worker exposure records and KI ingestion documentation are given to a designated person.

NUREG

CRITERION 3

**E.7, J.10.e,f.**

**Instructions on the distribution and use of KI have been prepared and are available for dissemination.**

**EVALUATION**

The OROs have clear and definitive plans and systems in place to insure that KI is distributed and that instructions for ingestion are disseminated. OROs demonstrate the ability to implement the distribution of KI according to their plans and procedures. Instructions to emergency workers and residents on the use of KI should include the following information:

- Reasons for taking KI,
- Dosage and time within which KI should be taken,
- Information on where KI can be obtained or how it will be distributed, and
- Possible side effects.

NUREG

CRITERION 4

**M.1,3,  
J.9,10.e.**

**Implementation of decisions regarding controlled re-entry of emergency workers into the restricted zone are demonstrated.**

**EVALUATION**

ORO's are prepared to provide briefings to re-entering emergency workers, including information based on As Low As Reasonably Achievable (ALARA) principles.

ORO's demonstrate the capability to control re-entry and exit of people and to protect them from unnecessary radiation exposure. Control procedures for exiting the restricted zone following re-entry include monitoring people, vehicles, and equipment to avoid spreading contamination outside the restricted zone.

## OBJECTIVE XX: DIRECTION AND CONTROL

(Formerly Objectives 3 and 23)

Demonstrate the capability to direct and control emergency operations.

### INTENT

This objective provides that OROs demonstrate the capability to control the overall response to an emergency and the capability to request assistance from Federal agencies, nuclear and other facilities, organizations, individuals, and radiological laboratories.

ORO's also are prepared to provide resources needed to support these assisting external organizations. (See evaluation criteria from NUREG-0654 A, C, and N).

### EXTENT OF PLAY

All activities described in the demonstration criteria for this objective shall be carried out in accordance with the plan, unless deviations are provided for in the extent-of-play agreement.

### DEMONSTRATION CRITERIA

#### NUREG

#### CRITERION 1

#### **A.1.d,2.a,b.**

**Designated personnel with leadership roles for the ORO provide direction and control to that part of the overall response effort for which they are responsible.**

### EVALUATION

ORO's shall demonstrate clear chains of command, their leadership and management capabilities, and their capabilities to accomplish the following:

- Delegate responsibility,
- Issue instructions to staff,
- Provide directions on use of the plan,
- Conduct staff meetings and briefings,
- Disseminate information,
- Resolve conflicts,
- Provide decision-making leadership,

- Consult with and issues instructions to staff and other organizations,
- Provide and clarify authorities needed for emergency action,
- Direct coordination with other OROs,
- Authorize implementation of PADs, and
- Provide for retention of essential information.

## NUREG

## CRITERION 2

**C.1.a.,b.,C.3.,4. Assistance is requested for unmet needs from outside organizations (Federal, State, local, volunteer and private).**

## **EVALUATION**

OROs demonstrate the capability to recognize and identify limitations in their own resources, determine circumstances that require outside assistance, secure required resources from external organizations, and track unmet requests to fulfillment.

Assistance from outside support agencies or organizations may be in the form of personnel, knowledge and expertise, equipment, supplies, services, or funding. OROs demonstrate knowledge of the points of contact for external organizations and the use of appropriate communication systems. If assistance is requested, the requestor should document agency, official contacted, time, and assistance requested.

## NUREG

## CRITERION 3

**C.1.a.,b.,C.3.,4. OROs demonstrate the capability to support and facilitate the response of external organizations.**

## **EVALUATION**

OROs demonstrate the capability to provide support or resources requested by the external organizations that respond to the request for assistance. Examples of such support and resources include air fields, transportation vehicles, command posts, office space, telephone lines, radio frequencies, telecommunication centers, supplies, and equipment.

NUREG

CRITERION 4

N

**All activities described in the demonstration criteria are carried out in accordance with the plan, unless deviations are provided for in the extent-of-play agreement.**

**EVALUATION**

OROs demonstrate a capability to follow policies, implement procedures, and utilize equipment and facilities contained in the plans and procedures. OROs should demonstrate that they can follow sequences outlined in the various procedures and perform specified activities, as necessary.



## **OBJECTIVE XXX: PUBLIC INSTRUCTIONS**

(Formerly Objectives 10, 11 and parts of 16 and 27)

Demonstrate the capability to promptly alert and notify the public within the plume pathway EPZ. Coordinate the formulation and dissemination of accurate and timely emergency instructions and information to the public throughout the radiological event.

### **INTENT**

This objective concerns both the process by which the messages containing instructions and information are coordinated among OROs and the clarity, completeness, accuracy and timeliness of the messages. Procedures need to encompass the alert and notification emergency; and issuance of instructions and information for the general public in the plume and ingestion pathway EPZs during the emergency phase and in the post-emergency relocation, re-entry and recovery phases of a radiological incident. (See evaluation criteria from NUREG-0654 Planning Standards A, E, and J).

### **EXTENT OF PLAY**

All alert and notification activities will be conducted as they would be in an actual emergency, subject to the extent-of-play agreement.

Exception areas must be selected for demonstration and evaluation. The public address system should be demonstrated with a test message along the route or at some agreed-upon location.

A current copy of preprinted information and instructions must be ready for rapid reproduction and distribution.

### **DEMONSTRATION CRITERIA**

#### **NUREG**

#### **CRITERION 1**

**E.5,6,7. Activities associated with primary alerting and notification sequences are acted upon urgently and completed within 15 (primary) or 45 (within exception areas) minutes of decisions by authorized offsite emergency officials to activate the alert and notification system.**

### **EVALUATION**

ORO must demonstrate the capability to provide both an alert signal and an instructional message to populated areas throughout the plume pathway EPZ within 15 (primary) or 45 (within exception areas) minutes of the decision by authorized offsite officials to activate the alert and notification system. This capability must be demonstrated in

1 conjunction with all primary notification systems for the general population, including  
 2 the Emergency Alert System (EAS).

3  
 4 The OROs must be able to alert and notify permanent and transient populations within 10  
 5 miles of the nuclear power plant and complete the following actions within the  
 6 appropriate time after each decision to alert and notify the public:

- 7  
 8 • Provide emergency alerting and notification to the public (the following table is an  
 9 example of the data requested for each timed alert and notification sequence);

10

ACTION	SEQUENCE #1	SEQUENCE #2	SEQUENCE #3	SEQUENCE #4
(a) Time offsite official's decision was made to notify public (start clock)				
(b) Time alert system was activated				
(c) Time EAS message broadcast was initiated				
*(d) Time "Primary Route Alerting" was completed				
*(e) Time "Exception Area Alerting" was completed				
*(f) Time "Backup Alerting" was completed				
*(g) Time "Supplementary Alerting" was completed				

11 \* If applicable

- 12  
 13 • Select either an appropriate pre-scripted emergency instruction, modify a pre-  
 14 scripted emergency instruction, or formulate an ad-hoc emergency instruction.  
 15 Due to the time limitations of the EAS system, the message cannot exceed 2  
 16 minutes in length. The message must contain at a minimum, affected

jurisdictions, the site status, emergency classification level, protective action decision (PAD), reference to the public information brochure and a closing statement requesting the public to stay tuned to the EAS station. Subsequent special news broadcasts concerning descriptions of the affected geographical area in terms of familiar landmarks and boundaries, location of reception centers and other pertinent information must be provided immediately following the EAS broadcast.

- Coordinate activities with other OROs prior to release of the message, as required, for activating the alerting system and timing and choosing the contents of the notification message.
- Coordinate with the broadcast station(s) to ensure that the correct message is broadcast, and that current messages are repeated as appropriate.
- Receive verification of the ad hoc message or instructions for use of a pre-scripted message from the station.
- Activate the alert signals.
- Complete all primary route alerting and notification activities when applicable. This includes providing messages over the mobile public address system.
- Initiate dissemination of the emergency message to the public via the EAS and any other means specified as primary in the ORO plan. This includes special notification devices. Parents of school children must be notified of protective actions.
- Promptly provide copies of EAS messages to appropriate OROs (e.g., risk and support counties, State and joint information centers).

## NUREG

## CRITERION 2

### **E.6. OROs use supplementary route alerting to complement primary route alerting and/or notification methods.**

## **EVALUATION**

ORO may choose to provide supplementary route alerting and notification. Because this emergency activity is discretionary, demonstration of supplementary route alerting and notification will be negotiated in the Extent-of-Play agreement.

NUREGCRITERION 3

**E.5,7. All messages accurately reflect the protective action decisions made by responsible authorities.**

**EVALUATION**

OROs must demonstrate the capability to ensure that emergency messages are consistent with decisions made by the appropriate offsite officials. They should be able to convey information accurately to people responsible for developing notification messages or selecting and modifying pre-scripted messages. OROs will provide emergency instructions to the broadcast station(s) for dissemination. This demonstration may include recording the message directly on a tape for use by the station, accessing the station for a live transmission, or using other means to ensure that messages are read correctly.

NUREGCRITERION 4

**E.5,7. Emergency messages contain instructions and information that are understandable and can be easily implemented by the public.**

**EVALUATION**

OROs must demonstrate the capability to use familiar landmarks and boundaries to delineate the geographic areas covered by protective actions described in an emergency message. Descriptions may include site-specific landmarks, such as rivers, railroad tracks, buildings, and local government jurisdictions.

OROs must ensure that messages are internally consistent and that information in an early portion of the message is not contradicted by information in a later portion of the same message. The contents of the messages should be adapted to address misinformation that may have a negative impact on the public response. Emergency messages should contain information from the rumor control staff, as appropriate. The public, both in areas covered under PADs and outside those areas, must be informed to stay tuned to the broadcast station(s) for further emergency instructions and information.

The emergency messages must be accurate when compared with current accident status information provided by the licensee. Messages must contain clear language and instructions understandable to the public.

OROs must demonstrate the capability to provide instructions to the public on implementing the recommended protective actions. These instructions must indicate when and by whom these actions should be taken; must be consistent with, and refer to, previously distributed informational brochures; and must be complete enough to ensure that people without a brochure will know how and when to take appropriate actions.

Subsequent messages need to be developed that contain: instructions for transients; items to take along when evacuating; evacuation routing; locations of reception centers; instructions and information for parents of students, transportation dependent individuals, and special populations; instructions and information on protective actions for food and water, and information related to relocation, re-entry and recovery activities.

Updated instructions and information must be provided in a way that clearly distinguishes current and previous instructions. This demonstration should be supported by an accurate and current log of previous messages available at all times to message preparers.

OROs must demonstrate the capability to develop emergency messages and provide broadcasts in a non-English language when required.

#### NUREG

#### CRITERION 5

**A.1.b,  
E.5,7. OROs coordinate content of emergency messages with all appropriate staff, organizations, and jurisdictions.**

#### **EVALUATION**

OROs must demonstrate the capability to coordinate with each other and with the appropriate support organizations (e.g. American Red Cross, Salvation Army) and internal staff on the content of emergency messages. This coordination may include sharing the information, joint development of message content, or providing direction on message contents to several organizations from a central coordinating organization. Emergency messages must be periodically rebroadcast even if there is no change in the emergency status.

OROs maintain copies of all instructional and informational messages that may be used by the Public Information Officials (PIO) and rumor control staff.

#### NUREG

#### CRITERION 6

**E.5,7,  
J.9,11. When ingestion pathway measures are exercised, preprinted instructions and information are available for rapid reproduction and distribution to pre-selected individuals and businesses.**

#### **EVALUATION**

OROs must demonstrate the capability to maintain copies of instructions and information for ingestion pathway actions so that they may be rapidly reproduced and distributed to predetermined individuals and businesses. A listing of organizations and businesses (including addresses, contacts, and telephone numbers) that will receive ingestion-related materials during actual emergencies must be available.